

REMARKS

Claims 22-33 are now presented for examination. Claims 41-52 have been cancelled without prejudice or disclaimer of subject matter. Claims 22, 28, 29 and 30 have been amended to define still more clearly what Applicant regards as his invention, in terms which distinguish over the art of record. Claims 22 and 28 are the only independent claims.

The Office Communication mailed August 21, 2006 stated that Amendment filed June 13, 2006 was not compliant with 37 C.F.R. § 1.121 with respect to Claim 22. Accordingly, Applicant has provided above a replacement listing of the claims wherein each of the strike outs of commas on lines 2 and 3 of Claim 22 has been changed to surrounding double brackets, and favorable consideration is earnestly solicited.

Claims 22-33 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Applicant's Admitted Prior Art (AAPR) in view of previously cited U.S. Patent 5,006,760 (Drake Jr.). Claim 27 has been further rejected under 35 U.S.C. § 103(a) as unpatentable over AAPR and Drake, Jr. as applied to Claims 22-26 and further in view of U.S. Patent 4,856,904 (Akagawa). With regard to the claims as currently amended, these rejections are respectfully traversed.

Independent Claim 22 as currently amended is directed to a pod attached to the outside surface of a grounded electromagnetic shielded chamber that has a door and a grounded flange portion around the door on the outside surface and contains a micro-device manufacturing apparatus. In the pod, walls contain the substrate and a lid for an opening is defined by walls. The substrate is transferred between the pod and the grounded electromagnetic shielded chamber through the opening with the lid in an open state. The walls have an electromagnetic shield

member that includes a flange portion contacting the grounded flange portion of the grounded electromagnetic shielded chamber without any intervening elements therebetween while the pod is attached to the outside surface.

Applicant's admitted prior art (AAPR) discloses a pod attachable to the outside wall of an electromagnetic shielded chamber with walls and importing a substrate to a device manufacturing apparatus in the electromagnetic shielded member from the pod.

In Applicant's view, Drake, Jr. discloses a capacitive feed arrangement for a parallel plate plasma reactor. One plate of the capacitor has a lower electrode or a contact to the lower electrode and the other plate of the capacitor has an annular member insulated from the lower electrode or contact. In Drake, an upper electrode 11 and a lower electrode 13 are separated by a dielectric ring 12. The lower electrode 13 is insulated from the upper electrode 11 and insulated from ground. The lower electrode 13 serves as a stage that holds a wafer 14. A shield 27 that extends around the lower electrode 13 and is insulated from the lower electrode 13 by rods 28 shields the environment from the RF power applied to the parallel plate plasma reactor. The shield 27 connects to a ground 26 which is insulated from the upper electrode 11 by the dielectric ring 12. Conductive ring 17 that is connected to an RF power source is insulated from upper electrode 11 and lower electrode 13 so that conductive ring 17 and lower electrode 13 form a capacitor 35 and a high power electromagnetic field is provided between the lower electrode 13 and the upper electrode 11.

In accordance with the invention of Claim 22 as currently amended, the walls of a pod is attached to the outside surface of a grounded electromagnetic shielded chamber having a

door and a grounded flange portion around the door on the outside surface. The pod includes an electromagnetic shield member having a flange portion contacting the grounded flange portion of the grounded electromagnetic shielded chamber without any intervening elements therebetween while the pod is attached to the outside surface of the electromagnetic shielded chamber.

The AAPR disclosure only provides a pod without an electromagnetic shield that is attachable to a device manufacturing apparatus so that the opening of the pod lid with the door of the device manufacturing apparatus allows electromagnetic waves from the device manufacturing apparatus to leak through the pod.

The Drake plasma reactor chamber has an upper electrode 11 and an attachable lower electrode 13 separated by a dielectric ring 12. RF power is capacitively applied to the lower electrode 13 from an outside source 20 through a conductive ring 17 which is insulated from both the upper electrode 11 and the lower electrode 13. An electromagnetic shield 27 surrounding the lower electrode 13 contacts a ground ring 26 that is attached to the dielectric ring 12 and an insulating sleeve 25. When the lower electrode 13 is attached, it only contacts the dielectric ring 12 and the electromagnetic shield 27 only contacts the ground ring 26. As a result, RF power may leak from the chamber 10 through the dielectric ring 12. In addition, RF power leakage occurs in the grounding path between the ground ring 26 and the case of matching network 20 that is unspecified and then through lead 23 to the upper electrode 11.

Drake only discloses a structure in which there is a dielectric ring 12 between the the upper and lower electrodes of a chamber through which RF power can leak and a ground path between the ground ring 26 and the upper electrode 11 that has an undefined path which includes

the case of the matching network 20 and the lead 23. Accordingly, Drake fails in any manner to teach or suggest the structure of Claim 22 of an electromagnetic shield member in the walls of an a pod attached to the outside surface of a grounded electromagnetic-shielded chamber that has a flange portion contacting the grounded flange portion of the electromagnetic shielded chamber without any intervening elements therebetween while the pod is attached to the outside surface of the chamber. Accordingly, it is not seen that the addition of Drake's plasma reactor feed arrangement with electromagnetic wave leakage paths to the disclosure of the AAPR which fails in any manner to teach or suggest electromagnetic shielding of a pod could possibly suggest the features of Claim 22. It is therefore believed that Claim 22 as currently amended is completely distinguished from any combination of the AAPR and Drake and is allowable.

Independent Claim 28 as currently amended is directed to micro-device manufacturing apparatus having an electromagnetic shielded chamber with a substrate transfer unit placed in the chamber. A pod attached to an outside surface of the electromagnetic shielded chamber has a substrate handling unit and an electromagnetic shielded member that includes a flange portion in contact with the outside surface. A processing unit placed in the electromagnetic shielded chamber includes a wafer chuck for the substrate to be processed. The electromagnetic shielded chamber has a door and a grounded flange portion surrounding the door on the outside surface of the electromagnetic chamber. The electromagnetic shielded chamber is connected to a ground and is in contact with the flange portion of the pod without any intervening elements therebetween while the pod is attached the outside surface.

As discussed with respect to Claim 22, electromagnetic waves will leak in the AAPR arrangement when the lid of the pod is opened together with a door of the device manufacturing apparatus to which the pod is attached. Drake is restricted to a capacitive feed arrangement for a plasma reactor in which RF power can leak through a dielectric ring inserted between an upper electrode and a lower electrode of the plasma reactor chamber and through a grounding path for the upper electrode which extends in the environment outside the chamber. In contrast, It is a feature of Claim 28 that the grounded flange portion surrounding the door on the outside surface of an electromagnetic shielded chamber is connected via a ground connection with the flange portion of a pod attached to the outside surface without any intervening elements therebetween while the pod is attached to the outside surface. Accordingly, it is not seen that the addition of the AAPR which does not suggest any prevention of electromagnetic leakage to Drake's plasma reactor capacitive feed having a ground connection arrangement which has paths for electromagnetic leakage could possibly suggest the structural features of Claim 28.

For the foregoing reasons, Applicant submit that the present invention, as recited in independent claims 22 and 28, is patentably defined over the cited art, whether that art is taken individually or in combination.

Dependent claims 23-27 and 29-33 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in independent claims 22 and 28. Further individual consideration of these dependent claims is requested.

Applicant further submits that the instant application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-noted Office Action and an early Notice of Allowance are requested.

Applicant also requests that the Examiner contact his undersigned representative should any matters be deemed outstanding precluding allowance of this application.

Applicants' attorney, Steven E. Warner, may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,

/Jack S. Cubert/
Attorney for Applicants
Jack S. Cubert
Registration No. 24,245

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3800
Facsimile: (212) 218-2200
JSC/cmg

DC_MAIN 251773v1